

# Latin American Air Forces Face the Impacts of COVID-19

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The Western Hemisphere, like the rest of the world, has suffered the consequences of COVID-19. This new virus was identified for the first time in December 2019 in Wuhan, China. Then, on 11 March 2020, the World Health Organization (WHO) determined that the virus could be characterized as a pandemic.<sup>1</sup> Over time this pandemic has turned into a global crisis. At the time this article was written in late July, the American continent had more than 8,728,960 cases as well as an alarming 339,651 deaths.<sup>2</sup> Despite the measures being adopted, it is disheartening that unfortunately, these numbers continue to rise.

At the beginning of the outbreak, when populations were still living their normal day to day lives, this pandemic spread exponentially, and every corner of the world was affected by it. Naturally, although China made public this complex situation, cases rapidly increased as the rest of the nations watched carefully, but were unaware of an effective prevention formula. After the WHO's declaration of COVID-19 as a global emergency in mid-March, world governments have changed their usual course and in a "domino effect" have been adopting similar measures in unison.

Based on the WHO's recommendations in addition to the restrictive measures being imposed in many countries, the military as well as other state institutions began adopting courses of action to protect their citizenry. Thus, air forces, with their readily available resources, have become a useful, integrated, and valued team actor, with all forces prioritizing the execution of operations to combat the damage caused by the pandemic to provide support to higher authorities.

Of note is the importance of an air component's contribution to the call of the population, with its unusual needs, without giving up on the continued fight against the threats that air forces always face—there is no room to give in, only to act. This situation brings challenges that test an air force's operational capabilities and its ability to react to an invisible enemy. However, with each executed mission, these experiences are taken as continuous and instant learning tools. As long as the pandemic lasts, we will be observing new lessons. Only months after operations began, we already have good practices to alleviate the effects of COVID-19 to protect the citizens of Latin America. These actions are a clear example of the resiliency and adaptability to fulfill unusual roles within necessary biosecurity parameters.

### *Understanding the Stage*

Fundamentally, the health measures and restrictions on economic activities implemented by governments have undoubtedly represented a great challenge for the organizations responsible for emergency response. It is not just as simple as adopting these measures while ignoring the reasons they were imposed; it is also about having the wisdom to understand the impacts created by this virus, which have been unprecedented at all levels of government and in turn have caused sudden changes in daily societal life.



**Figure 1. Argentine Air Force personnel transporting ventilators and medical supplies to various provinces aboard one of their C-130 Hercules**

Source: SICOFAA

All organizations responding to a crisis of the magnitude we are currently facing have been forced to act without any prior planning—starting from an unknown stage. However, training, coaching, commitment to country, and the degree of readiness of our armed forces have proven resilient and flexible in dealing with these sudden changes. Additionally, and right in line with supporting the intent of each nation's strategic leadership, once again our armed forces portray their great commitment to guaranteeing national security and defense. Even with this variation to traditional military land, air, and naval components' institutional tasks, otherwise designed to respond to obvious situations of a military nature, the value our armed forces have for our societies is demonstrated by their actions.

For their part, the air forces/equivalent members of the System of Cooperation among the American Air Forces (Sistema de Cooperación entre las Fuerzas Aéreas

Americanas - SICOFAA), committed to fulfilling their role of safeguarding the sovereignty and integrity of their territories and airspaces, have been proactive in fulfilling important tasks, so much so that today they are on the front lines supporting various operations that seek to cushion the havoc wreaked by the virus.

It is nonetheless true that this invisible enemy's significance has been unexpected, bringing with it much concern about the rapidity in which it spreads, even more so because in the beginning there was no clear way of containing it. This propelled accelerated actions to protect people efficiently, with no time to lose, and led to the implementation of exceptional provisions that have sought to quell the increase in the outbreak. Today, we are already aware of basic protection measures to avoid the spread of the virus; within this framework, recommendations issued by health authorities to adopt more effective and rigorous hygiene habits and practice and encourage physical/social distancing have become understood. Without a doubt, these measures help to combat the outbreak and prevent the rapid spread of cases.



**Figure 2. Disinfection chamber implemented by the Bolivian Air Force to protect installation personnel**

*Source: SICOFAA*

At the same time, similar standards have been established internally within the armed forces, to a lesser or greater degree. These fixed measures have been incorporated as rigorous and standardized procedures to carry out routine missions, minimize exposure to operations personnel, and learn how to comply with these new established norms. The use of personal protective equipment (PPE) is mandatory, as well as sanitization of all involved, to include uniforms and work areas used to carry out missions/functions. It is worth highlighting that procedures have been put in place to disinfect aircraft and rapidly test personnel who carry out the missions, in addition to the campaigns that many health departments are carrying out to create awareness on the need to always use PPE. We seek to pre-

serve hygiene in the entire work environment, require physical distancing, and serve as an example for these good practices.

Additionally, new procedures in the aeronautical field have been put in place for aircraft operations and maintenance, while continuing to comply with operational risk mitigation processes. In other words, appropriate normal procedural standards are maintained while, at the same time, meeting new anti-COVID-19 hygiene standards.

From another perspective, although these provisions helped tamp the increase in infections, at the same time, they affected all of our economies. Although an economic collapse was foreseeable, the inadvertent interruption of daily life of urban and rural communities had far-reaching consequences, affecting municipalities, provinces, departments, regions—really the entirety of the country. Therefore, it has become necessary to respond quickly and consistently to the citizenry; it is here where the role of the armed forces, with the direct support components they possess, becomes manifest.

### *The Air Forces, Present to Provide Support*

It is worth mentioning that the members of the air forces, already ready, have taken a step forward with this struggle using all the human capital and operational capabilities they possess, to fulfill unexpected missions in support of their people. At first, when faced with this scenario, it was impossible to design a well-structured plan or assessment to execute the unforeseen operations required, since the enormity of the impacts was yet unknown. Even so, the air forces have joined other national leadership elements to support nations' collective interests. Multiple operations have been taken in support of citizens, including the most vulnerable. These operations have supported national authorities in a bid to help maintain societal equilibrium in the face of the health and economic challenges imposed by COVID-19. The escalation of accumulated cases that this pandemic has thrown our way has taken its toll in a surprising way. Consequently, it has paralyzed the normal activities of society in the Americas and the rest of the world. It has also harmed several important sectors, such as health, economic, public/private security, education, tourism, and all other interrelated and interdependent areas, which serve to preserve stability and/or tranquility in our societies.

Thus, without having any logical guide nor forecast, SICOFAA organizations have been able to carry out their tasks with agility. During these times, missions have involved support of the police, to control and supervise public roads for curfew enforcement, quarantines, and the restrictive measures established in many countries. To accomplish this, air force personnel and ground resources have sup-

ported tasks such as preserving public order and containing civil disobedience/ large gatherings of ordinance violators, to prevent the risk of infections.

Another of the government measures implemented has been border closures, thus entry and exit to territories by air, land, and sea were significantly curtailed except for humanitarian assistance or to deliver basic supplies. As a result, the productivity of many villages declined considerably, becoming evident at the macro-/microeconomic level. Restrictions on economic activities have forced workers to remain at home without knowing what will happen to their jobs in the future. Although some work remotely or in a virtual environment, it has been an uphill challenge for many developing countries whose citizens survive on informal business transactions to support themselves on a daily basis.



**Figure 3. Mexican Air Force crew provides international (humanitarian) flights transporting nationals who were stranded in other countries**

*Source: SICOFAA*

Another major negative factor that has caused great concern has been the interruption of basic subsistence supply distribution lines. The risk to families whose access to staple items has been disrupted led to the adoption of extraordinary measures on a global scale, resulting in the design of a scaffolding to find workable and effective solutions to avoid creating chaos in the population. As instruments of power, the air forces have designed lightning-speed strategies, so to speak, to provide support, using their capabilities to transport basic necessary supplies needed by all affected.





**Figure 4. Peruvian Air Force helicopter readying a delivery of staple foods to communities in hard-to-reach areas**

Source: SICOFAA

Another relentless factor beyond the impacts caused by the virus itself has been time. Every second that passes creates a great challenge not only for public health authorities and the various organizations involved but also for the entire population in general, especially for those who live in isolated areas and in inhospitable places where access is difficult.

The evolution of the coronavirus pandemic has left in its wake a high incidence of infections and deaths. These statistics cause fear in the population, and consequently despair. There is also fear for those involved in this fight. The men and women who sacrifice themselves to provide full-time support, saving lives and caring for everyone, are obviously vulnerable, and even though they serve out of a sense of dedication, their motivation is also affected by their family situation back home. This is a situation that every soldier knows—serve your country and give everything for all.

However, the changes being experienced by the world's population should not abate the continuity of the forces called upon to sustain and support the fundamental actions being carried out. Each air force has operated in accordance with its reality, that is, its own capabilities, which have been sufficient for the provision of supplies and medicines to many citizens. The effects of COVID-19, as a result of the measures taken, have required our organizations to be present on the front lines, with specialized aircraft and ground personnel to fulfill the missions assigned in response to this unique health emergency situation.

It should be emphasized that the increase in support missions plus many air forces' initiatives adopting PPE to avoid the infection represent an increased workload on the forces' logistical processes. PPE materials include masks, gloves,

suits, and products that help maintain hygiene standards, since personnel are exposed to the virus daily—prevention protocols established in military installations to be used by the men and women who are tirelessly fulfilling their various assigned missions.



**Figure 5. Transfer of patient in a Hercules by members of the Chilean Air Force**

*Source: SICOFAA*

Although precisely in line with logistics principles such as continuity and force sustainability, having sanitary measures to guarantee the health of personnel has been a great challenge. To maintain an optimal operational level, many air forces have maximized their resources to ensure that operations are not disrupted, while creating a safe environment to operate—representing an increased workload for many of the forces' health organizations. For example, many health departments are sanitizing workplaces by providing fumigation, orientation/supervision on the cleaning of entire work environments, distribution of instructional booklets for effective hand washing, and distribution of masks and cleaning agents, among others. Within the forces, a culture of awareness is being promoted to carry out good practices and create a healthy and hygienic environment in the context of occupational biosecurity.

Along these lines, our members have carried out sanitation work in neighborhoods surrounding different air bases and facilities where personnel live and work, in addition to providing aid for many of these communities in the form of food, medicine, and rapid-test mobile units. Likewise, our members have spearheaded

sanitization campaigns and given talks to educate and raise COVID-19 awareness among citizens and how to take care of themselves at home—in short, enlisting everyone's help to contain this pandemic.



**Figure 6. Honduran Air Force transports 182,000 COVID-19 early detection test kits to various countries in Central America and the Caribbean**

*Fuente: SICOFAA*

All these actions are tied into operations that increase risk; thus not only must operational safety standards be maintained but biosafety standards as well. As these operations themselves are draining, personnel rotation actions and everything necessary to keep these operations going must be considered, while simultaneously complying with aircraft, ground equipment, and vehicle maintenance processes.

Meanwhile, it is also necessary for personnel involved in provisioning, lodging, meals, and the workplace to maintain sanitation control measures and be cognizant of the different supply distribution procedures required to sustain forces operating in a battle without a foreseeable end.

The following are the different actions that member countries of SICOFAA have been executing in line with the directives issued by their governments to confront the effects of COVID-19.



## **Operations Carried Out by the American Air Forces Good Practices, Lessons Learned, Risks and Challenges**

Since 11 March, the first 135 days of this crisis have demonstrated the need for continuous ongoing operations, with no pause in between. Currently, our SICO-FAA members engage in nonstop operations to support all adopted measures enacted to deal with the pandemic and mitigate its effects:

- Logistical air transportation operations
- Food transportation
- Medicine
- Hospital logistics support (health and hygiene materials/medical equipment)
- Medical staff
- Support equipment
- Humanitarian aid operations
- Operations in support of health authorities and other agencies
- Operations in support of other military components and national police
- Surveillance, control, and monitoring citizen security in vulnerable areas

Consult appendix for a summary of the developments of each of SICOFAA's member air forces, as reported by each country.

## **Our Forces Do Not Yield to Threats**

Without losing sight of this new fight against COVID-19, air forces continue to face ever-present ongoing threats. These multiple threats never sleep, much less warn when they are going to strike. Many countries, due to their geographical locations and changing climatological dynamics that seasonally affect their territories, continue to witness events caused by natural phenomena. Storms, hurricanes, earthquakes, forest fires, and, depending on intensity, the destruction they bring, always end in damage one way or another. Likewise, the hands of the unscrupulous who seek to disrupt the normalcy of our people do not rest from doing evil. Faced with such a situation, one must always be vigilant. In this new operational reality, missions must continue while avoiding the contagion and preventing the habitual enemy from advancing their goals to disrupt people's tranquility—yet another challenge.



**Figure 7. Colombian Air Force transports medical supplies**

Source: SICOFAA

The main mission is to serve, second by second, and keep our nations protected by executing our national security strategies—directives conducted by the whole of government to guarantee security and defense stability. Organizations like air forces, who aim to protect airspace, do not stop fulfilling their usual missions but now have greater demands and, naturally, increased strain.

Thus, SICOFAA member air forces are the tip of the spear, mitigating adverse situations, day and night, as guarantors of their respective country's sovereignty. The virus, a new threat, grows exponentially and threatens people's peace. It is as if it were a new enemy that attacks without mercy—all the more reason to ensure a competent operational response, with the same impetus, while preserving operational reach. Thanks to established operational procedures, degree of readiness, continuous training, and the intent of each air force's senior leadership, it has been possible to act energetically and efficiently.

On the other hand, countries have seen their budgets curtailed and consequently so have their defense ministries. Each air force has seen its financial processes ripped apart to provide all the support required to eradicate the effects caused by an epidemiological crisis of the scale we are experiencing. Faced with such a predicament, the requirement to preserve the fighting force in this peculiar theater of operations, to contain the virus as well as confront all other threats, undoubtedly threatens effective operations.

In the face of these events, SICOFAA members manage to move forward and fulfill their institutional commitments and, in turn, support their country, terri-

tory, and an entire population that faithfully trusts the effective protection provided by the air component.



**Figure 8. Dominican Air Force support personnel fumigating communities surrounding air force bases**

*Source: SICOFAA*

### *The Value that the Air Forces Represent to Societies*

We should note that many air forces have provided an atmosphere of hope in times of visible anguish and have earned a valuable vote of confidence among their people. Despite these conditions we continue to fulfill our duty day and night, and a large percentage of the population realizes the hard work put forth by our forces.

A hopeful gesture is always useful, raises morale, and fosters a sense of collective encouragement, while at the same time awakens the flame of patriotic pride.

Beyond the tasks that our organizations carry out, many have taken the initiative to motivate through air employment, displaying their national flags while flying over important cities. These flights serve as a show of solidarity and gratitude to all health professionals, military, police, and many others who in one way or another contribute to minimizing the risks of the virus and protect the population. These solidarity flights raise patriotic fervor and each citizen's hope in Latin American countries.

The air forces stand side by side with their people in this fight, and they demonstrate it by air and land, a sign of encouragement by those on the front lines. In the process, if our value was well positioned before, it now acquires greater thrust and strength, like a colossus. We ourselves understand our role and commitment, and society sees it.



**Figure 9. Peruvian Air Force prepares an inter-hospital isolation chamber for COVID-19 patients—The chamber was designed by the Maintenance Service (SEMAN PERÚ) with aviation materials**

*Source: SICOFAA*

Even though this unending process is complicated, and its end is unknown, our members continue fighting, decisively and obediently, following orders from superiors in a changing, volatile, and unpredictable stage. We are heroes, heroes who come out of our home squadrons, by land and air—wearing boots and uniforms, and a brave heart with wings of hope.

### **The Virtual Cooperation Room (SAVICO) Is Implemented Useful and Vital Communication and Information Tool**

SICOFAA has a valuable tool well known to those involved in the system: the Information Technology and Telecommunications System of the American Air Forces (SITFAA). Since its creation in 1965 it has served as a direct link to facilitate communications.

It has evolved through the years by optimizing its functions and strengthening its capabilities, and in 2017 it integrated the SAVICO multilateral communications platform. Basically, this software uses the internet through Adobe Connect to serve as a strategic bridge during disaster events. It facilitates direct communication among the air forces and keeps us at the forefront in planning any required combined operation, while at the same time incentivizing humanitarian assistance, providing situational awareness, and reducing duplication of effort.



**Figure 10. Beyond humanitarian aid work, Dominican Air Force helicopters carry out solidarity flights to raise the morale of medical, military, and police personnel who fight every day to mitigate the effects of the pandemic—In addition, these flights overflow several cities in the spirit of giving hope to the population**

*Source: SICOFAA*

Additionally, a fundamental and essential aspect of SAVICO is that it can be activated when necessary by any member nation during an event. During COVID-19 we have been able to create an informational product available to the system. The flow of information is timely and necessary and has served as a situational report between commanders. Specifically, since SICOFAA's Permanent Secretariat (SPS) is located at Davis-Monthan Air Base in Tucson, Arizona, it has been a highly useful strategic resource for the commander of the 12th Air Force (Southern Command Air Component).

The personnel at SITFAA update this important report daily, which is presented by the Secretary General, Col Mike Ingersoll, to Maj Gen Andrew Croft, 12th Air Force commander, and his staff on a weekly basis.

This report informs our commanders on chronological events, incidents, descriptions of measures and actions taken, and other relevant aspects of directives regarding the pandemic implemented by different governments in their respective countries. The report's main objective is to provide situational awareness to all SICOFAA member countries on how COVID-19 is affecting us all—it allows to us know what is happening. Accurate information on infection cases and mortalities by this dangerous virus is exchanged on a strictly voluntary basis. This is also the case regarding air movement restrictions due to airport closures, which has led to the cessation of international flights throughout the territories affected. SAVICO as a collaboration platform consolidates information together with information collected via other methods and open sources.





**Figure 11. Sitting at the table, at the center is Col Mike Ingersoll, USAF, SICOFAA Secretary General, with Colonel Mario Rivas, Dominican Air Force, SICOFAA Deputy Secretary General to the right, and other members of SPS, reviewing a situation report from the SITFAA Network Control Station**

Source: SICOFAA

### SAVICO Situation Report from Each SICOFAA Member Country, According to WHO<sup>3</sup>

In summary, in many countries coronavirus cases have remained constant, while increasing at a higher rate in others. The lessening of measures taken to cushion the economic collapse has caused a resurgence in infections, which has forced air forces and other military components to implement effective measures to continue providing support to citizens.

MEMBERS	COVID-19 CASES	COVID-19 CASUALTIES
Argentina	122,524	2,246
Bolivia	58,138	2,106
Brazil	2,074,860	78,772
Canada	109,999	8,848
Chile	330,930	8,503
Colombia	190,700	6,516
Ecuador	74,013	5,313
El Salvador	11,846	335
United States	3,685,460	139,468
Guatemala	12,755	514

MEMBERS	COVID-19 CASES	COVID-19 CASUALTIES
Guyana	183	12
Honduras (CONJEFAMER)	12,306	358
Jamaica	657	10
Mexico	175,202	20,781
Nicaragua	2,014	64
Panama	25,222	493
Paraguay	1,379	13
Perú	251,338	7,861
Dominican Republic	52,855	981
Uruguay	1,044	33
Venezuela	11,483	110
<b>OBSERVERS</b>		
Belize	40	2
Costa Rica	10,551	54
Haiti	7,053	146
Trinidad & Tobago	137	8
<b>TOTAL (SICOFAA)</b>	<b>7,560,584</b>	<b>308,895</b>
<b>TOTAL (GLOBAL)</b>	<b>14,348,858</b>	<b>603,691</b>

**Table. Number of cases and casualties in Latin America due to COVID-19 presented by SITFAA Network Control Station through SAVICO. Data obtained from WHO (20 July 2020).**

Source: SICOFAA

After the WHO made public this new infectious disease, the members of SICOFAA have executed many operations in response to the effects of COVID-19 and in support of the measures imposed by their governments. These actions have demonstrated the value these forces represent to society and the commitment of men and women who stay in the continuous fight against this dangerous virus daily, highlighting their degree of readiness, training, and dedication.

This pandemic adds one more threat to the usual ones that always stalk the nations of Latin America, creating a challenge in a volatile scenario that impacts the economies of the countries and military forces themselves. Consequently, the actions that have been carried out have put operational capabilities to the test, without having the benefit of prior coordination.

That is why this system of cooperation has joined forces—implementing its tools to maintain situational awareness among its sister air forces. The communication and management of information in the military field is a valuable instrument in the tasks being executed by an organization like SICOFAA. Thanks to

the activation of SAVICO our members can stay connected and provide updates on what each air force does to assist the population affected by COVID-19.

The great challenge we face is the virus itself, originally an unknown scenario, which we now get to know as we execute operations—we must learn from this and be resilient. The lessons learned will lead us to design strategies that strengthen what we do. The member air forces of SICOFAA carry out their duties and report as present in this prolonged fight.

As the first stanza of the Dominican Air Force hymn says:

*“Go ahead, soldier, go ahead. That in the skies like an imposing eagle, watching over our homeland, the Air Force will accompany you”<sup>4</sup>*

The system keeps us “United and Allied.” □

## Notes

1. Acceso/Press Center/Detail. COVID-19: WHO Timeline. <https://www.who.int/es/news-room/detail/27-04-2020-who-timeline-covid-19>.
2. COVID-19 Americas' Regional Dashboard. Geographic Distribution of Cases and Deaths. Updated as 7/27/2020 <https://who.maps.arcgis.com/apps/dashboards/efb745c3d88647779becb91c0e715f9>.
3. SITFAA Situation Report. COVID-19 Americas' Regional Dashboard. Geographic Distribution of Cases and Deaths. Updated as 7/27/2020 <https://who.maps.arcgis.com/apps/dashboards/efb745c3d88647779becb91c0e715f9>.
4. Brigadier General ® Nelio Rosario Lugo. Dominican Air Force Hymn. About us. The hymn. [fuerzaaerea.mil.do](http://fuerzaaerea.mil.do).



**Colonel (Pilot) Mario Alberto Rivas Díaz,  
Dominican Air Force**

Colonel Rivas currently works as SICOFAA's Deputy Secretary General. He is a helicopter pilot with more than 3,100 hours. He is a distinguished graduate of the Air Command and Staff College (ACSC-15) and graduated with honors from Squadron Officer School (SOS-06), Air University, Maxwell AFB, Alabama. He has a summa cum laude degree in Industrial Psychology. Colonel Rivas completed the Terrorism and Security Studies Program in Garmish, Germany. He has a diploma in ethics on moral and philosophy studies and Non-Governmental and Military Operations. He attended the Combined Air Operations and Software Course (MULA). He specialized as a test pilot in maintenance, flight safety and accident investigation, and humanitarian aid operations. He also is author of the book “Significance of the Pan-American Flight Projected to the Dominican Republic Air Academy.”

## Appendix

### COVID-19 report from each Air Force of SICOFAA member countries

#### *Argentina*

- Logistical support (materials and personnel) within the country
- Repatriation flights for people stranded in Southern Cone countries
- Establishment of a first-class relocatable military hospital

#### *Bolivia*

- Transfers of medical and technical personnel
- Transfers of bio security equipment and medical supplies
- Transfers of reagents and samples
- Transfers of food to remote populations
- Transfers of foreign citizens (repatriation)
- Aeromedical evacuations
- Good practices
  - Adoption of biosecurity measures
  - Disinfection chambers and equipment
  - Control of the measures adopted by the government
  - Combined work among institutions
  - Employment of C-130 aircraft
  - Transfer of biosecurity material
  - Transfers of samples in training aircraft
  - Conditioning of aircraft for the transfer of patients.
- Lessons learned
  - Implementation of a culture of neatness
  - Training in the handling of personal protective equipment - PPE
  - Resilience
  - Teleworking
  - Value life
- Risks and challenges
  - Staff are exposed to contagion due to permanent exposure and interaction in the operations carried out

#### *Brazil*

- Currently, Operation COVID-19 remains in force
- Support actions, including
  - Logistic Air Transport
  - Medical equipment to supply hospitals (oxygen cylinders and lung ventilators)
  - Distribution of rapid tests

- Deployment of medical personnel
- Delivery of personal protective equipment (PPE): Alcohol gel, masks and gloves
- Delivery of baskets of basic supplies to hundreds of families
- Structure for the production and distribution of meals
- Repatriation of nationals from other countries
- Rescue Operation in Wuhan, China

## Canada

- The Aerospace Warfare Center's Analysis & Lessons Learned team has published a collection of Lessons Learned during the pandemic in the following two domains:
  - Business continuity planning (BCP), how to continue working during this pandemic
  - Protection of the health of the Armed forces, which includes preventive health measures, contracts and projects, training, personnel administration
  - Good practices
  - Creation of a database to comply with COVID-19 Norms and Procedures for domestic and international operations
  - Standards and procedures for aircraft cleaning
  - Crisis response team at each Air Force unit
  - Business continuity planning (BCP), how to continue working during this pandemic
- Lessons learned, risks and challenges, point to four key trends for RCAF operations
  - Challenges in maintaining international air mobility for ongoing operations
  - Impact of our dependence on information technology
  - The challenge of multi-jurisdictional health regulations
  - The impact of different policies among uniformed and civilian personnel working for national defense and the significant integration of military and public service and contracted support to all aspects of RCAF operations
- Implementing a mandatory Occupational Health and Safety Checklist from the Government of Canada to mitigate the risks of the virus in support of the Business Resumption Plan

## Chile

- Since the beginning of the COVID-19 pandemic, it ordered the participation of its staff, air and land assets, and medical supplies to face this crisis
- They executed flights to China to transport mechanical ventilators that were donated
- Transport of troops, health professionals, medical supplies and equipment, chambers for epidemiological isolation of critical patients, mechanical ventilators for flight assistance and stretchers for the transfer of patients of low complexity, in several fixed and rotary wing aircraft; including vaccines and, safeguard in the delivery of boxes with food, among other actions
- Protection of land, sea and air borders, and control of the sanitary measures adopted, such as curfews, customs and sanitary cordons



- Maintenance of training and execution of operations; integration of medical crews made up of doctors, university-trained nurses and combat nurses

## **Colombia**

- Management of the health crisis
- Evacuation of positive cases
- Freight, passenger, and humanitarian aid transport missions
- Lessons learned - Doctrine
  - Inter-institutional guide for the repatriation of nationals
  - Guidelines for the aeromedical transfer of patients with COVID-19
  - Massive aeromedical transfer procedures for suspected or diagnosed patients
  - Standardization of personal protection equipment for aeromedical transfer
  - Guidelines for the repatriation through humanitarian support flight of the Colombian Air Force (FAC) of military personnel and the national police, who are abroad
- Lessons Learned-Planning
  - Training for general medical, nursing assistant and pre-hospital care personnel
  - Review of literature and experiences from other countries
  - Training in the use of personal protection equipment (PPE)
  - Standardization of sanitizing procedures for medical equipment and crews
  - Review of aircraft sanitizing protocols to update and adapt to the new contingency
- Mission execution
  - Acquisition of isolation chambers
  - Elements for transferring patients with mechanical ventilation (ventilators and filters)
  - Wireless intercommunication equipment
  - Implementation of a digital medical record system to avoid manipulating physical documents
  - Acquisition of supplies for the disinfection of the capsule and aircraft surfaces
  - Preparation of ground personnel to carry out the sanitizing protocol.
- Conclusions and recommendations
  - The Colombian Air Force has the necessary knowledge about the procedures and guidelines for the aeromedical transfer of patients with COVID-19
  - Airway management and medical emergencies should be reviewed in flight
  - It is important to instill healthy lifestyle habits and physical conditioning to withstand physical and mental stress
  - Limit the autonomy times of the medical crew per mission to a maximum of six hours of flight or when more than two legs are estimated

## **Dominican Republic**

- Security support for citizens to enforce the curfew provisions directed by the government

- Delivery of basic food supplies to the neighboring towns near the air bases
- Air transportation of doctors to towns in need of specialized personnel
- The Military Teaching Hospital “Dr. Ramón de la Lara ” of the Dominican Air Force became the main medical center in the entire country to treat people infected with the virus
- The Air Force has taken a series of measures based on the recommendations by international organizations, to reduce the risk of infections both for crew and personnel air transport:
  - Use of masks
  - Use of gloves and disinfectant gels
  - Disinfecting the aircraft
  - Taking temperature and performing detection tests
  - Motivational flights have also been carried out for all health, police and military personnel dedicated full time to combat this pandemic
- Lessons learned
  - Transfer of patients by air is not necessary, since the geography allows expeditious ground transfer of patients to the isolation and treatment points
  - Carrying out patient transfers in regular air-ambulance services, but with bio-safety protocols

### *Ecuador*

- Participation in working groups and workshops that make up the operational commands in the provinces
- Support to the units of the Ministry of Public Health in their respective jurisdictions
- Support to the Undersecretary of Migration in the registration and control of crossing points in its jurisdiction
- Intensification of control in “unauthorized” entry points
- Support to the National Police to comply with the “mobility restrictions” and vehicular circulation
- Support in the supply of basic needs, logistics transport and medical supplies to any point of the national territory
- Medical air transport
- Transport packaging and disposal of corpses
- Safety of convoys of food and medical supplies and establishment of a sanitary corridor for the transport of hydrocarbons
- Air cargo transportation to the Galapagos Island
- Support in the distribution of food kits
- Support in the security of prisons
- Operations to control the population and its resources, to avoid violent acts, vandalism and looting
- Security of strategic supply logistics corridors

- Security of sensitive food distribution points to guarantee food supply to the population

### ***El Salvador***

- Air support to assist civilian population as required
- Good practices
  - Compliance with the defense ministry's plan for aid to the population
  - Deployment of helicopters to transport food and support of assistance personnel
  - Security of containment center
  - Vehicle control - to educate and inform regarding prevention measures
  - Support to the Army carrying out patrols
  - Preparing basic household provisions
  - Use of aircraft to transport basic household provisions
  - Sanitizing vehicles and personnel
- Lessons learned
  - Night observation flights to control the movement of people in vulnerable points
  - Staff available for voluntary plasma donation
  - Training of personnel to assist during humanitarian flights
- Risks and challenges
  - Staff at risk of being infected threatens the support that is being provided
  - Raise awareness among staff to avoid infections

### ***Guatemala***

- Aeromedical evacuations
- Transfer of medicines and supplies to difficult access locations
- Critical point reconnaissance during restricted hours
- Transfer of doctors, nurses, and support personnel to and from hospitals
- Transfer of government personnel to different parts of the country to monitor and supervise compliance with the established protocols
- Good practices
  - Support to the nation
  - Support to other State institutions
  - Staff commitment when carrying out different missions
  - Support from friendly Air Forces.
- Lessons learned
  - Training pilots for the transportation of personnel during the virus crisis
  - Use of protective equipment for pilots and ground support personnel
  - Disinfecting aircraft before, during, and after a mission
  - Establishment of security protocols in all areas
- Risks and challenges
  - Latent risk of infection from staff
  - Achieve a high standard in the training of personnel on the management of the virus

- Increase in the number of infections with no aerial means to evacuate personnel
- Maintain the constant distribution of all the necessary security equipment
- Adverse weather conditions

### ***Honduras***

- Aircraft mobility at national and international level
- Employment of personnel in various tasks
- Transportation of personnel, loading material and medical equipment
- Transfer of rapid tests to Guatemala, El Salvador, Nicaragua, Costa Rica and the Dominican Republic
- Aeromedical evacuations
- Surface support operations to land and naval components
- Security in hospitals to maintain control and order
- Use of certified air traffic controllers during emergency events for international airports to receive humanitarian aid flights
- Use of ground equipment to distribute food and various supplies to the population
- Support to the Ministry of Health and the National Police

### ***Jamaica***

- Support to government ministries, departments and agencies
- Search and Rescue
- Total confinement of the entire Air Wing since March
- Air support to internal security operations
- VIP transportation
- Temperature checks at all entrances to the facilities
- Limited access and control of facilities
- Sanitation of facilities
- Mandatory use of masks for all staff
- Use of PPE for all aircraft crews
- Reduced seating capacity within cabin areas
- Health service for the sanitizing of aircraft
- Air patrol to enforce curfews
- Transportation of personnel for support in affected areas
- Operational training for regular pilots was significantly improved during the period of confinement
- Lessons learned
  - Stress and anxiety increased during the confinement period, non-contact sports are used as a solution
  - Contingency plan for logistical support
  - Risks and challenges
  - Physical distancing is a challenge in an aircraft
  - Vulnerability increases when interacting with personnel who have not been confined

- Insufficient availability of PPE and hygienic material

### **Mexico**

- Means of Coordination. Creation of the COVID-19 Air Operations Coordination Center, for planning and coordinating operations as well as establishing support requirements
- Each military air base reactivated a coordination center
- International Flights (Humanitarian)
  - Carrying out multiple flights in order to repatriate nationals and foreigners to Cuba, Argentina, Peru, Colombia, Uruguay and Bolivia
- National Flights (Medical logistics)
  - Carrying out logistical flights, transporting equipment and medical supplies (fans, monitors, gloves, mouth covers, overalls, saline solutions, hospital beds)
  - Aeromedical evacuation
- Personnel, material and equipment
  - Integrated operations development, with the participation of pilots, specialists from the Mexican Air Force and flight attendants as part of the crews, as well as specialized technical personnel for logistical support
  - To attend this health emergency, Air Force aircraft were assigned to carry out activities to contribute to the tasks of the Plan for Assistance to the Population in Cases of Disasters (DN-III-E) during COVID-19

### **Nicaragua**

- Development of protocols and manuals with measures to contain COVID
- Good practices
  - Arrangement of air resources in support of the population
  - Basic measures to enter the facilities
  - Mandatory use of permanent masks
  - Disinfecting personnel and vehicles when entering the facilities
  - Mandatory change of clothes when entering the facilities
  - Permanent medical check-ups
  - Physical / social distancing in all areas

### **Panama**

- Transfer of patients with a positive diagnosis and others with a possible diagnosis at the national and international level
- Execution of humanitarian flights for the transfer of patients from multiple locations in the national territory
- Transfer of medical personnel by air in support of affected places with difficult access
- International humanitarian flights
- These flights have always been carried out considering biosecurity measures from the moment the mission is assigned, until the disinfecting stage and the completion of the mission



## Paraguay

- Support and liaison on humanitarian aid flights
- Aeromedical evacuation flights
- Transportation flights for medicines and samples
- Transportation of food and medicine kits to inaccessible places
- Shelter at the facilities of nationals who enter the country
- Security coverage in shelters
- Land transportation of citizens
- Transportation of food and medicines by land
- Control in citizen traffic
- Border control
- Control patrols to the cities with the highest probability of infections

## Peru

- The Peruvian Air Force (FAP), as an armed institution of the State, has been complying with the provisions issued by the Major Command and the COVID-19 Operations Command created by the government to combat the pandemic. Since the beginning quarantine, the FAP issued a series of directives and put all its resources (land and air) and personnel at the disposal of the government to combat the virus
- Good practices
  - Personnel Area — Deployed a large percentage of its personnel to provide protection of citizens, support in the distribution of food, among others
  - Health Area — Implemented Rapid Testing Centers, disinfection and fumigation of public use areas, differentiated triage and blood donations
  - Production Area — Provided logistical support to State hospitals nationwide, providing with its Technical Services the repair of ventilators and the manufacture of isolation chambers and intubation cubes
  - Operations Area
    - Air Operations through Aerospace Control (through the control of national and international civil flights and air patrols), and support flights against COVID19 (through air transport of cargo and passengers, and Aeromedical Evacuations)
    - Land Operations through awareness raising, territorial control and joint interventions (through rapid interventions, control points and individual and joint patrols)
    - Remote Surveillance Operations using unmanned aerial vehicles (UAVs), drones and cameras.
  - Finally, the FAP, through its Command Post, provided the required support to the “COVID-19 Operations Command”, to the cross-sectional platform “Te Cuido Perú” (led by the Armed Forces for the purpose of detecting, isolating and

- assist those infected), and the “Help us to Help” campaign (in charge of raising funds for the acquisition, bagging and distribution of food for families living in poverty.
- *Organizing personnel in two working groups*
    - Guarantee the continuity of the mission
    - Comply with the guidelines for surveillance, prevention and control
    - Constant monitoring of infected and quarantined military/civilian personnel, through social assistance and health at the bases, complying with the protocols for prevention, diagnosis and treatment of people affected by the virus
    - Implementation of remote work for civilian personnel (weekly meetings through virtual platform)
    - Accident prevention actions for personnel involved in operations
  - *Lessons learned*
    - Avoid misión delays
    - Negative COVID-19 certificates for delegates
    - Current regulations and flexibility to adapt our procedures to changes
    - Fixed air crews to avoid infections
    - MEDEVAC missions in airplanes with two entrances
    - Quick pre-flight tests
    - Clinical follow-up of the aircrews
    - Exclusive aircraft for MEDEVAC mission

### ***United States***

- In support of the national strategy, active duty personnel, reservists, national guard and civil air patrol have been involved in different missions:
  - Transfer and distribution of critical supplies
  - Transfer of material and medical equipment
  - Aeromedical evacuations
  - Deployment of liaison officers in support of governors in the states
  - Sanitizing public places and nursing homes
  - Deployment of personnel to most affected states
  - Distribution of masks and tests
  - Use of military bases for temporary storage, incident support and isolation
  - The National Guard has distributed personal protective equipment, PPE manufacturing, testing center and food storage bank
  - Transportation of aid to different countries in Central and South America
- *Technological development*
  - Study of the air flow inside aircraft to assess the impact of the virus
  - Use of the Isolated Transportation System to transport infected patients
  - Use of negatively depressurized equipment (called CONEX) to transport several infected patients
  - Use of available programs and tools

- Exchange of experts in the fight against the virus through the State Partnership Program (SPP)
- Use of geospatial tools to help commanders manage COVID-19 risk in selected areas
- Use of bipolar ionization for cleaning aircraft.
- Lessons learned
  - Timely implementation of sanitary protection measures
  - Usefulness of teleworking (to protect vulnerable people)
  - Restriction of movements, cancellation or postponement of exercises and execution of essential flights (to avoid the spread of the virus)
  - Specific medical responses (follow-up and isolation)
  - Various measures were applied in the US and at USAF air bases abroad
  - The deployment of Liaison Officers at the disposal of the governors was timely
  - Technological developments proved to be efficient (TIS)

## *Uruguay*

- Humanitarian flights
- Social plans
- Aid to the most vulnerable citizens
- Telework
- High impact measures
  - Communication and decisions at the Presidential level supported by his cabinet and a group of experts
  - National Coronavirus Plan
  - Border closure
  - Cancelling activities with large groups of people
  - Citizen responsibility was urged, maintaining physical distancing and voluntary quarantine
  - “Stay at Home” Plan
  - Reduction of forces to 50%.
- Good practices
  - Defense and protection of the crews (currently, no one infected)
  - Platforms to continue education